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| 10/808,999      | 03/25/2004  | Raymond J. Staron    | 04AB015; 04AB016    | 7765             |
| 7590            | 03/16/2006  |                      |                     |                  |
| EXAMINER        |             |                      |                     |                  |
| PHAM, THOMAS K  |             |                      |                     |                  |
| ART UNIT        |             | PAPER NUMBER         |                     |                  |
| 2121            |             |                      |                     |                  |

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/808,999

Applicant(s)

STARON ET AL.

Examiner

Thomas K. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**First Action on the Merits**

1. Claims 1-31 of U.S. Application 10/808,999 filed on 03/25/2004 are presented for examination.

**Quotations of U.S. Code Title 35**

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

## **Drawings**

6. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the submitted drawings are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

## **Claim Rejections - 35 USC § 102**

7. Claims 1-27 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,909,368 ("Nixon").

### **Regarding claim 1**

Nixon teaches a system for programming a plurality of agents onto a distributed control system being configured to control a plurality of controllable devices for performing a process, the system comprising:

- a terminal that displays a graphical user interface having a plurality of images (see Col. 9 lines 19-35) including a first image showing a plurality of selectable templates and at least a first mechanism by which first user input signals can be received concerning the templates, wherein the templates include agent-type programming (see Col. 10 lines 1-7);  
and

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- a second image showing a representation of the controllable devices and at least a second mechanism by which second user input signals can be received concerning associations between the templates and the representation (see Col. 11 lines 42-50); and
- a processing device that generates executable programming to be performed by the distributed control system based upon the templates and the associations, wherein the executable programming at least partly governs agent-type behavior of the distributed control system (see Col. 13 lines 59-64).

**Regarding claim 19**

Nixon teaches a system for programming a plurality of agents onto a distributed control system being configured to control a plurality of controllable devices for performing a process, the system comprising:

- at least one memory device on which is stored at least one library of program templates, wherein each of the program templates includes agent-related programming (see Col. 10 lines 1-7); and
- a human-machine interface in communication with the at least one memory device (see Col. 9 lines 36-52), wherein the human-machine interface displays the program templates of the at least one library and a mechanism by which user input signals can be received concerning selected ones of the program templates (see Col. 13 lines 59-64).

**Regarding claim 24**

Nixon teaches a method of programming a distributed control system, the method comprising:

- providing a first editor interface displaying templates of at least one library (see Col. 10 lines 1-7);

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- receiving first user instructions to select at least some of the templates from a library using the first editor interface, wherein each of the templates includes agent-related programming (see Col. 9 lines 59-67);
- providing a second editor interface that displays a representation of a facility having a plurality of controllable devices (see Col. 11 lines 42-50);
- receiving second user instructions assigning the selected templates to portions of the representation corresponding to the respective controllable devices (see Col. 10 lines 14-25);
- providing a third editor interface that displays a representation of a plurality of controllers of the distributed control system (see Col. 12 lines 4-15); and
- receiving third user instructions assigning each of the selected templates to a respective one of the controllers (see Col. 7 lines 5-24).

**Regarding claim 27**

Nixon teaches a method of programming a distributed control system to control a plurality of devices to perform a process, the method comprising:

- providing a controller for implementation in the distributed control system (see Col. 4 lines 41-45), wherein the controller includes general programming including first programming to govern first agent-type functionality of the controller (see Col. 9 lines 59-67);
- obtaining second programming for governing operation of the controller to control one of the devices and also third programming for governing second agent-type functionality of

the controller that depends upon a characteristic of the controlled one device (see Col. 10 lines 14-25); and

- supplementing the first programming with the second and third programming (see Col. 12 lines 4-27).

#### **Regarding claim 2**

Nixon teaches wherein the plurality of images includes a third image showing a plurality of libraries of templates and at least a third mechanism by which an additional user input signal can be received concerning a selected one of the plurality of libraries (see Col. 9 lines 59-61).

#### **Regarding claim 3**

Nixon teaches wherein at least one of the first image, the second image and a third image shows a third mechanism by which additional user input signals can be received concerning modifications of the templates (see Col. 10 lines 8-12).

#### **Regarding claim 4**

Nixon teaches wherein at least one of the first, second and third images shows agent template information selected from the group consisting of agent-related properties, agent-related types, agent-related abbreviations, agent-related variables, agent-related tags, agent-related factory classes, and relationships among agents (see Col. 13 lines 34-49).

#### **Regarding claim 5**

Nixon teaches wherein the first image also shows control programming and at least a third mechanism by which additional user input signals can be received concerning modifications of the control programming (see Col. 13 lines 1-10).

**Regarding claim 6**

Nixon teaches wherein the control programming is ladder logic code, and wherein at least one of the first image and a third image further shows at least one of variables and tags employed in the ladder logic code (see Col. 13 lines 59-64).

**Regarding claim 7**

Nixon teaches wherein the plurality of images includes a third image showing the agent-type programming corresponding to the templates and at least a third mechanism by which additional user input signals can be received concerning modifications of the agent-type programming (see Col. 13 lines 11-25).

**Regarding claim 8**

Nixon teaches wherein at least some of the agent-type programming is written in C++ and includes program instructions to generate messages in a language selected from the group consisting of JDL, XML, and KQML (see Col. 10 lines 33-45).

**Regarding claim 9**

Nixon teaches wherein the agent-type programming further includes program instructions to wrap the messages in a FIPA ACL protocol, and wherein the third image further shows at least one of strings and tags employed in the agent-type programming (see Col. 13 lines 11-25).

**Regarding claim 10**

Nixon teaches wherein the plurality of images includes a third image showing available controllers of the distributed control system and a third mechanism by which additional user input signals can be received concerning assignments of the templates to at least some of the available controllers (see Col. 10 lines 23-32).



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**Regarding claim 11**

Nixon teaches wherein with respect to the third image or a fourth image, when a further user input signal is received indicating a particular one of the available controllers, those of the templates that have been assigned to the one controller are highlighted (see Col. 13 lines 11-26).

**Regarding claim 12**

Nixon teaches wherein the plurality of images includes a third image showing available controllers, available networks and available chassis components (see Col. 10 lines 1-5).

**Regarding claim 13**

Nixon teaches wherein the processing device performs a compiling process during the generating of the executable programming (see Col. 5 lines 11-15).

**Regarding claim 14**

Nixon teaches wherein the processing device performs an instantiation process upon the templates during the generating of the executable programming (see Col. 12 lines 15-20).

**Regarding claim 15**

Nixon teaches wherein the terminal is part of a human-machine interface that is coupled to the distributed control system by way of a communication link (see Col. 9 lines 19-35).

**Regarding claim 16**

Nixon teaches wherein the human-machine interface is a personal computer and the communication link is a network (see Col. 9 lines 36-58).

**Regarding claim 17**

Nixon teaches further comprising a means for storing information on which the executable programming is stored prior to being downloaded onto controllers of the distributed control system (see Col. 8 lines 58-64).

**Regarding claim 18**

Nixon teaches wherein the executable programming is stored upon a memory device selected from the group consisting of a disk, a cartridge, a card, and a chip (see Col. 8 lines 58-64), and wherein the executable programming is provided to the distributed control system when the memory device is coupled to a component of the distributed control system (see Col. 12 lines 15-20).

**Regarding claim 20**

Nixon teaches wherein each program template includes ladder logic control programming in addition to the agent-related programming (see Col. 13 lines 59-64).

**Regarding claim 21**

Nixon teaches wherein the human-machine interface displays a plurality of screens including a first screen on which the ladder logic control programming can be edited and a second screen on which the ladder logic control programming can be viewed but not edited (see Col. 13 lines 59-64).

**Regarding claim 22**

Nixon teaches further comprising a processing device that compiles and instantiates the program templates to generate executable programming that includes both application-specific agent programming and application-specific control programming (see Col. 12 lines 15-27).

**Regarding claim 23**

Nixon teaches wherein the executable program is downloaded onto a plurality of controllers of the distributed control system and integrated with general programming residing at the distributed control system, wherein the general programming includes general agent programming (see Col. 7 lines 18-24).

**Regarding claim 25**

Nixon teaches receiving additional user instructions to modify the selected templates (see Col. 10 lines 8-12).

**Regarding claim 26**

Nixon teaches providing an additional editor interface that displays available controllers, available networks, and available chassis components (see Col. 9 lines 19-35).

**Regarding claim 29**

Nixon teaches wherein the obtaining of the second and third programming includes at least one of selecting a first template from a template library, modifying a second template obtained from one of the template library and another source, and creating the second programming without using any templates (see Col. 10 lines 23-32).

**Regarding claim 30**

Nixon teaches wherein the second programming includes ladder logic code and the third programming includes C++ code (see Col. 14 lines 24-32).

**Regarding claim 31**

Nixon teaches configuring at least one of the first programming, the second programming, the third programming and a fourth programming so that data that is required by the controller for

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operation, and that is available at a location other than at the controller, is periodically and continually transferred to the controller (see Col. 17 lines 58-67).

### **Claim Rejections - 35 USC § 103**

8. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nixon in view of U.S. Patent No. 6,119,052 ("Guenther").

#### **Regarding claim 28**

Nixon does not specifically teach the first agent-type functionality includes generating bid request messages and bid messages.

However, Guenther teaches a market-based control system which includes generating bid request messages by market agents (see col. 2 lines 53-64) for the purpose of providing a controller for smart matter that robustly coordinating a physically distributed real-time response with many devices in the face of failures, delays, changing environmental conditions, and incomplete models of system behavior (see Col. 2 lines 37-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the bid messages of Guenther with the system of Nixon because it would help for the purpose of providing a controller for smart matter that robustly coordinating a physically distributed real-time response with many devices in the face of failures, delays, changing environmental conditions, and incomplete models of system behavior.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday - Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Any response to this office action should be mailed to: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450**. Responses may also be faxed to the **official fax number (571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Thomas Pham**  
*Patent Examiner*



March 14, 2006